

No.

9800348

# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

## W J International Seeds, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR OTHER VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 AMENDED, 7 U.S.C. 2321 ET SEQ.)

RYEGRASS, PERENNIAL

'R2'



*In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twenty-second day of November, in the year two thousand and four.*

Attest:

Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE  
 AGRICULTURAL MARKETING SERVICE  
 SCIENCE DIVISION - PLANT VARIETY PROTECTION OFFICE

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a).

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

**APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE**

(Instructions and information collection burden statement on reverse)

1. NAME OF APPLICANT(S) (as it is to appear on the Certificate) <b>DLF</b> International Seeds, Inc. <b>704</b> <b>315/04</b>		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER  ISI-R2	3. VARIETY NAME  R2
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)  PO Box 168/820 First Street Halsey, OR 97348 USA		6. TELEPHONE (include area code)  541-369-2251	FOR OFFICIAL USE ONLY PVPO NUMBER <b>9800348</b> DATE <b>7-30-98</b> FILING AND EXAMINATION FEE <b>2,450</b> DATE <b>7-30-98</b> CERTIFICATION FEE <b>432</b> DATE <b>10/12/04</b>
		6. FAX (include area code)  541-369-2640	
7. GENUS AND SPECIES NAME  Lolium perenne	8. FAMILY NAME (Botanical)  Graminae		
9. CROP KIND NAME (Common name)  Perennial Ryegrass			
10. IF THE APPLICANT NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) (Common name)  Corporation			
11. IF INCORPORATED, GIVE STATE OF INCORPORATION  Oregon	12. DATE OF INCORPORATION  1972		
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS  N/A			14. TELEPHONE (include area code)
			15. FAX (include area code)
16. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)			
a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of the Variety d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Applicant's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties verification that tissue culture will be deposited and maintained in a public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,450), made payable to "Treasurer of the United States" (Mail to PVPO)			
17. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY, AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act?) <input type="checkbox"/> YES (If "yes," answer items 18 and 19 below) <input checked="" type="checkbox"/> NO (If "no," go to item 20)			
18. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input type="checkbox"/> NO		19. IF "YES" TO ITEM 18, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED	
20. HAS THE VARIETY OR A HYBRID PRODUCED FROM THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES (If "yes," give names of countries and dates) <input type="checkbox"/> NO <b>September, 1997</b>			
21. The applicant(s) declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.  The undersigned applicant(s) is(are) the owner(s) of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.  Applicant(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.			
SIGNATURE OF APPLICANT (Owner(s)) 		SIGNATURE OF APPLICANT (Owner(s))	
NAME (Please print or type)  Stephen W. Johnson		NAME (Please print or type)	
CAPACITY OR TITLE  Senior Research Scientist	DATE  July 20, 1998	CAPACITY OR TITLE	DATE

EXHIBIT A

## ORIGIN AND BREEDING HISTORY OF R2 PERENNIAL RYEGRASS

In 1991 31 plants were selected out of three experimental populations at International Seeds, Inc.'s Research Station near Tangent, Oregon. The experimental populations were trace to the varieties Manhattan II, 4 Delaware Dwarf and SR 4200.

A bulk population consisting of equal amounts of seed from each of the 31 parents was planted in turf trials near Jericho and Glen Head, New York in the fall of 1991. In the fall of 1993 plugs were removed from the Jericho and Glen Head plots. These plugs were used to establish a 1000 plant spaced nursery near Tangent, Oregon. This nursery was observed through the winter and spring and plants with lighter green color, late maturity and poor seed yield potential were removed prior to anthesis. In total approximately 300 plants were rogued from the nursery. Seed from the remaining plants was harvested in the summer of 1994 and constitutes the stock seed of the variety. A portion of this seed is maintained by International Seeds, Inc. and may be used to plant new breeder seed fields when necessary.

The variety R2 has appeared generally uniform during multiplication from breeder to foundation to certified production.

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**EXHIBIT A**

**STATEMENT OF UNIFORMITY AND STABILITY**

**R2 over three generations of seed increases (from breeder to foundation to certified generations) has been found to be uniform and stable. No distinct variants have been observed during these multiplications.**

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**EXHIBIT B****NOVELTY STATEMENT**

**R2 perennial ryegrass (*Lolium perenne*) is a medium early maturity variety.**

**R2 is most similar to Manhattan II. Differences between R2 and Manhattan II include, but are not necessarily limited to the following:**

- 1. R2 has a higher level of resistance to dollar spot. (R2 has a higher level of resistance than the variety Brightstar and Brightstar has the same level of resistance as Manhattan II).**
- 2. R2 has a higher level of resistance to brown patch (R2 has a level of resistance similar to Brightstar and Brightstar has a higher level of resistance than Manhattan II).**

U.S. DEPARTMENT OF AGRICULTURE  
 AGRICULTURAL MARKETING SERVICE  
 LIVESTOCK, MEAT, GRAIN AND SEED DIVISION  
 BELTSVILLE, MARYLAND 20705  
**OBJECTIVE DESCRIPTION OF CULTIVARS**  
**RYEGRASS**  
*(Lolium spp.)*

EXHIBIT C  
*(Ryegrass)*

NAME OF APPLICANT(S) <b>DLF International Seeds, Inc.</b> <i>Jes 3/15/04</i>	VARIETY NAME OR TEMPORARY DESIGNATION <b>R2 (ISI-R2)</b>
ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code) PO Box 168, Halsey, OR 97348	FOR OFFICIAL USE ONLY PVPO NUMBER <b>9800348</b>

Place the appropriate number that describes the varietal character of this variety in the boxes below. Place a zero in first box (e.g. **089** or **09**) when number is either 99 or less or 9 or less. Descriptions of characters should represent those that are typical for the variety. Ranges may be given also. Measured data should be for SPACED PLANTS. Give additional description for all characteristics that cannot be adequately described in the form below. Append all pertinent comparative trial and evaluation data. The symbol "▲" indicates decimal.

**1. SPECIES:**

<input type="checkbox"/> 1 = L. MULTIFLORUM (annual or Italian: includes Westerwoldicum)	<input type="checkbox"/> 2 = L. PERENNE (perennial)	<input type="checkbox"/> 3 = L. RIGIDUM (includes Wimmera)
<input type="checkbox"/> 4 = HYBRID (of species) _____	<input type="checkbox"/> 5 = OTHER (Specify) _____	

**2. PLOIDY:**

<input type="checkbox"/> 1 = DIPLOID	<input type="checkbox"/> 2 = TETRAPLOID	<input type="checkbox"/> 3 = OTHER (Specify) _____
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**3. DURATION:**

<input type="checkbox"/> 1 = ANNUAL OR BIENNIAL	<input type="checkbox"/> 2 = SHORT LIVED PERENNIAL (3-4 years)	<input type="checkbox"/> 3 = PERENNIAL (more than 4 years)
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STANDARD CULTIVARS			
1 = GULF	2 = WIMMERA 62	3 = LINN	4 = PELO
5 = NORLEA	6 = ABERYSTWYTH S-23	7 = MANHATTAN	8 = PENNFINE

**4. MATURITY (50% HEADED)** Use standards from above for comparison:

<input type="checkbox"/> 1 = VERY EARLY	<input type="checkbox"/> 3 = EARLY	<input type="checkbox"/> 01 DAYS EARLIER THAN .....	<input type="checkbox"/> STANDARD CULTIVAR
<input type="checkbox"/> 5 = MEDIUM	<input type="checkbox"/> 7 = LATE	<input type="checkbox"/> 13 DAYS LATER THAN .....	<input type="checkbox"/> 3 STANDARD CULTIVAR
<input type="checkbox"/> 9 = VERY LATE			

**5. MATURE PLANT HEIGHT** (Use standard cultivars from above):

<input type="checkbox"/> 764 CM. HIGH	<input type="checkbox"/> 38 CM. SHORTER THAN .....	<input type="checkbox"/> 3 STANDARD CULTIVAR
<input type="checkbox"/> 145 CM. TALLER THAN .....	<input type="checkbox"/> 7 STANDARD CULTIVAR	

**6. PERCENT WINTER DAMAGE** (estimated as percent of the area appearing dead). Use standard cultivars from above for comparison:

<input type="checkbox"/> 77 PERCENT DAMAGE OF APPLICATION CULTIVAR	
<input type="checkbox"/> 63 PERCENT DAMAGE OF .....	<input type="checkbox"/> 3 STANDARD CULTIVAR

**7. TURF DENSITY** Use standard cultivars from above:

<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> TILLERS PER 100 SQ. CM.	
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> LESS TILLERS PER 100 SQ. CM. THAN .....	<input type="checkbox"/> STANDARD CULTIVAR
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> MORE TILLERS PER 100 SQ. CM. THAN ...	<input type="checkbox"/> STANDARD CULTIVAR

**8. FLAG LEAF** (at full growth) Use standard cultivars from above:

<input type="checkbox"/> 134 CM. LENGTH (from ligule to tip)	<input type="checkbox"/> 44 MM. WIDTH (at widest point)	
<input type="checkbox"/> 50 CM. SHORTER THAN .....	<input type="checkbox"/> 3 STANDARD CULTIVAR	<input type="checkbox"/> 6 FLAG LEAF AT BOOT STAGE:
<input type="checkbox"/> 10 CM. LONGER THAN .....	<input type="checkbox"/> STANDARD CULTIVAR	1 = DEFLEXED
<input type="checkbox"/> 05 MM. NARROWER THAN .....	<input type="checkbox"/> 3 STANDARD CULTIVAR	3 = RECURVED
<input type="checkbox"/> 03 MM. WIDER THAN .....	<input type="checkbox"/> STANDARD CULTIVAR	5 = HORIZONTAL
		7 = SEMI-ERECT
		9 = ERECT

STANDARD CULTIVARS

1 - GULF  
5 - NORLEA

2 - WIMMERA 62  
6 - ABERYSTWYTH S-23

3 - LINN  
7 - MANHATTAN

4 - PELO  
8 - PENNFINE

9. LEAVES:

1 - LEAVES ROLLED IN YOUNG SHOOTS  
3 VERNATION: 2 - LEAVES SEMI-ROLLED (folded with rolled edges)  
3 - LEAVES FOLDED IN YOUNG SHOOTS

% PLANTS WITH ANTHOCYANIN IN LOWER LEAF SHEATH     FOLIAGE COLOR:    1 = YELLOW GREEN  
2 = MEDIUM GREEN  
3 = BLUE GREEN

10. SPIKE:

MM. SPIKE LENGTH (tip to internode below lowest floret)

MM. SHORTER THAN .....  } USE STANDARD CULTIVARS FROM ABOVE

MM. LONGER THAN ..... *Elka*  }

MG. PER TEN SPIKES (trimmed to internode below lowest floret)

MG. LIGHTER PER TEN SPIKES THAN .....  } USE STANDARD CULTIVARS FROM ABOVE

MG. HEAVIER PER TEN SPIKES THAN .....

FLORETS PER SPIKELET

PERCENTAGE OF PLANTS WITH:

RACHIS:  % SMOOTH     % ROUGH

SPIKE COLOR:  % GREEN     % PURPLE

LEMMA:  % AWNED     MM. AWN LENGTH

MM. GLUME LENGTH     1 = SPIKELET LENGTH NEARLY EQUAL TO OUTER GLUMES  
2 = SPIKELET LENGTH MUCH LONGER THAN OUTER GLUMES

11. COLEOPTILE:

% PLANTS WITH ANTHOCYANIN IN COLEOPTILE

12. ANTHOR COLOR:

% PLANTS WITH WHITE ANTHERS     % PLANTS WITH YELLOW ANTHERS

% PLANTS WITH PURPLE ANTHERS

13. ROOT AND PLANT CHARACTERS:

% PLANTS WITH PROSTRATE GROWTH HABIT     % PLANTS WITH FLUORESCENT ROOTS

% PLANTS WITH UPRIGHT GROWTH HABIT

14. SEED:

MG. PER 1,000 SEED     MM. TOTAL LENGTH OF 10 SEEDS     MM. TOTAL WIDTH OF TEN SEEDS

15. DISEASE (0 = NOT TESTED, 2 = HIGHLY SUSCEPTIBLE, 4 = MODERATELY SUSCEPTIBLE, 6 = MODERATELY RESISTANT, 8 = HIGHLY RESISTANT):

- 5 CROWN RUST (*Puccinia coronata*)  
 3 LEAF SPOT (*Helminthosporium*)  
 4 SNOW MOLD (*Typhula*)

- 7 DOLLAR SPOT (*Sclerotinia*)  
 0 MILDEW  
 5 RED THREAD (*Corticium*)

- 5 BROWN PATCH (*Rhizoctonia*)  
 3 OTHER (Specify)  
stem rust

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16. INSECT. (0 = NOT TESTED, 2 = HIGHLY SUSCEPTIBLE, 4 = MODERATELY SUSCEPTIBLE, 6 = MODERATELY RESISTANT, 8 = HIGHLY RESISTANT):

0 (Specify) \_\_\_\_\_

17. GIVE RESEMBLANCE VALUE IN LEFT COLUMN AND VARIETY CODE NUMBER IN RIGHT COLUMN FOR VARIETY WITH WHICH COMPARISON IS MADE (1 = LESS THAN, 2 = SAME AS, 3 = MORE ERECT, MORE RESISTANT, DENSER, MORE PERSISTENT, DARKER OR GREATER HEIGHT.):

RESEMBLANCE	CHARACTER	SIMILAR VARIETY
1	PLANT HABIT (erectness)	9 1 = GULF
3	TILLERING	8 2 = WIMMERA 62
1	WINTER HARDINESS	3 3 = LINN
3	HIGH TEMP. STRESS RESISTANCE	8 4 = PELO
3	TURF PERSISTENCE	8 5 = NORLEA
2	PLANT COLOR	9 6 = ABERYSTWYTH S-23
	VERTICAL SEEDLING GROWTH RATE	
2	CROWN DENSITY	9 8 = PENNFINE
3	MOWER SHREDDING RESISTANCE	3 9 = Manhattan II

18. GIVE AREA OF ADAPTATION AND INTENDED USE: Permanent turf in Northern USA and Overseeding in

19. GIVE AREA TEST RESULTS PRESENTED FROM: Tangent, Oregon southern locations.

COMMENTS:

Data collected from 60 spaced plants of each variety. Fungicide was applied to these plants in the spring and summer of 1997 and 1998 to control stem rust.

**Heading dates of perennial ryegrass cultivars.  
Tangent, Oregon**

Cultivar	Date Headed	
	1997	1998
R2	May 19	May 21
Linn	May 9	May 5
Regal	May 13	May 17
Pinnacle	May 18	May 20
Manhattan II	May 20	May 22
Gator	May 21	May 28
Brightstar	May 25	May 31
Manhattan	June 4	June 12
Elka	June 10	June 18

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	% Plants with erect growth habit
R2	53
Manhattan II	73
Pinnacle	65
Elka	64
Brightstar	63
Regal	57
Manhattan	54
Gator	45
LSD @ 0.05	18

Growth habit of plants grown in spaced plant nursery near Tangent, Oregon. Nursery consisted of three replications per cultivar and 20 plants per cultivar per replication. LSD determined from two-way analysis of variance.

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Exhibit D

	Plant Height (cm)		Spike Length (mm)			Flag Leaf Length (cm)			Flag Leaf Width (mm)			
	1997	1998	$\bar{x}$	1997	1998	$\bar{x}$	1997	1998	$\bar{x}$	1997	1998	$\bar{x}$
R2	71.1	81.7	76.4	189	248	218.5	13.2	13.6	13.4	4.7	4.1	4.4
Linn	72.3	88.1	80.2	236	253	244.5	18.1	18.6	18.4	5.3	4.5	4.9
Regal	70.9	77.2	74.1	227	249	238	12.8	14.7	13.8	4.7	4.6	4.7
Manhattan II	65.9	77.9	71.9	229	247	238	12.4	16.9	14.7	5.1	4.3	4.7
Gator	65.2	76.4	70.8	204	246	225	13.3	15.9	14.6	5.9	4.4	5.2
Manhattan	61.2	62.6	61.9	213	251	232	16.2	14.2	15.2	4.9	4.8	4.9
Pinnacle	60.2	71.3	67.3	183	219	201	12.0	14.7	13.4	4.7	3.9	4.3
Brightstar	53.7	64.0	58.9	158	192	175	10.2	12.1	11.2	4.3	3.9	4.1
Elka	48.3	53.4	50.9	185	173	179	14.3	10.4	12.4	4.7	3.4	4.1
LSD @ 0.05	10.8	5.8		36	22		2.1	3.6		0.4	0.4	

Table 1. Morphological characteristics of perennial ryegrass plants grown near Tangent, Oregon. Trial consisted of three replications with 20 plants per cultivar per replication. Trial established in October of 1996. LSD determined from two-way analysis of variance.

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TABLE 25. DOLLAR SPOT RATINGS OF PERENNIAL RYEGRASS CULTIVARS 1/  
1991-1994 DATA

DOLLAR SPOT RATINGS 1-9; 9=NO DISEASE 1/				DOLLAR SPOT RATINGS 1-9; 9=NO DISEASE 2/			
NAME	R11	VAL	MEAN	NAME	R11	VAL	MEAN
PINACLE	7.7	9.0	8.3	CHARISMA (WVBP 89-92)	6.0	8.0	7.0
PLEASURE	8.0	8.7	8.3	DERBY SUPREME	5.7	8.3	7.0
BAR LP 852	7.7	8.3	8.0	KODS 90-2	7.0	7.0	7.0
LEGACY	8.0	8.0	8.0	MULLIGAN (WK 89061)	6.0	8.0	7.0
PANATHAN II (E)	7.7	8.3	8.0	PR 9108	6.7	7.3	7.0
REGAL	7.7	8.3	8.0	PR 9109	5.7	8.3	7.0
NOM LP 3184	7.7	8.0	7.8	PRIZM (ZES-28D)	6.7	7.3	7.0
ZES-2EZ	7.3	8.3	7.8	PST-250	5.3	8.7	7.0
NOM LP 3111	7.0	8.7	7.8	SR 4200	6.3	7.7	7.0
RIVIERA	7.0	8.7	7.9	YORKTOWN III (LDRZ)	6.0	8.0	7.0
DANRO	7.0	8.3	7.7	CUTLESS	6.0	7.7	6.8
CARRI (ZW 42-176)	7.3	8.0	7.7	EGIAL	5.7	8.0	6.8
EMBERS	7.3	8.0	7.7	NOM LP 3185	6.0	7.7	6.8
BUCCANEER (KODS 90-1)	7.0	8.0	7.5	FRONTO (WVBP-89-87A)	6.7	7.0	6.8
CALLIENTE	7.0	8.0	7.5	SHERWOOD	6.7	7.0	6.8
DANILO	7.3	7.7	7.5	AIM	5.0	8.7	6.8
DELAWARE DWARF (4DD)	7.0	8.0	7.5	CARTEL	6.3	7.3	6.8
EGG 358	6.7	8.3	7.5	CHARGER	7.3	6.3	6.8
GELTYSBURG	6.7	8.3	7.5	COMPETITOR	6.3	7.3	6.8
NOM LP 3179	7.7	7.3	7.5	DIMENSION (ZHT)	6.3	7.3	6.8
PST-2ROR	6.7	8.3	7.5	PR 9119	6.3	7.3	6.8
SHINING STAR (PST-2B3)	7.0	8.0	7.5	PST-20G	6.3	7.3	6.8
99-666	6.7	8.0	7.3	ELGANCE (OFI-17)	6.7	6.7	6.7
ASSURE	7.0	7.7	7.3	GREENLAND (PICK 9100)	5.7	7.7	6.7
DANDY	7.0	7.7	7.3	BRIGHTSTAR (PST-GH-89)	7.3	6.0	6.7
LILIN	7.0	7.7	7.3	CARBOY II (WV-II)	6.0	7.3	6.7
METEOR	7.0	7.7	7.3	GATOR	6.0	7.3	6.7
FERNANT	7.7	7.0	7.3	LARETA	6.0	7.3	6.7
PRELUDE II (2P2-90)	6.3	8.3	7.3	OWATION	6.0	7.3	6.7
PST-23C	6.7	8.0	7.3	PR 9121	5.3	8.0	6.7
TAYA	6.7	8.0	7.3	PREMIER	6.3	7.0	6.7
CUTTER (PICK 89-4)	7.3	7.3	7.3	WIND STAR (PST-28M)	6.0	7.3	6.7
ENVY	7.3	7.3	7.3	ALEGRO	6.0	7.0	6.5
MORNING STAR (SYN-P)	7.3	7.3	7.3	BORNDWALK (OFI-D4)	6.3	6.7	6.5
DUET	6.7	7.7	7.2	COMANEE	6.7	6.3	6.5
PRECISION (NOM LP 3147)	6.0	8.3	7.2	MK LP 3182	5.7	7.3	6.5
240 (PEBBLE BENCH)	7.0	7.3	7.2	NIGHTHAWK (WVBP-89-PR-A-3)	6.7	6.3	6.5
856	6.3	8.0	7.2	PRIMER II (P89)	5.7	7.3	6.5
BAR LP 0867L	7.0	7.3	7.2	REPELL II (LDRZ)	6.0	7.0	6.5
LYRA (PICK EEC)	7.0	7.3	7.2	AFFINITY (GSH-90)	4.7	8.0	6.3
PR 9118	6.3	8.0	7.2	CITATION II	6.7	6.0	6.3
RIVIERA II (PICK DRM)	6.3	8.0	7.2	PATRIOT II	7.0	5.7	6.3
SEVILLE	7.0	7.3	7.2	SURPRISE	5.7	7.0	6.3
ACHIEVER (PICK 1800)	7.0	7.0	7.0	TORONTO	5.0	7.7	6.3
ADVENT	5.7	8.3	7.0	CLP 39	5.3	7.3	6.3

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TABLE 25. DOLLAR SPOT RATINGS OF PERENNIAL RYEGRASS CULTIVARS  
(CONT'D) 1991-1994 DATA

DOLLAR SPOT RATINGS 1-9; 9=NO DISEASE

NAME	RI1	VA1	MEAN
CORSAIR (MVF 89-88)	5.3	7.3	6.3
NOBARD	5.3	7.3	6.3
ESSENCE (ER 8820)	4.0	8.3	6.2
CALYPSO	5.3	7.0	6.2
LINDSAY	5.3	7.0	6.2
PASSPORT (PST-2FF)	5.3	7.0	6.2
STALLION	6.3	6.0	6.2
BARRAGE ++	3.7	8.3	6.0
C-71	4.3	7.7	6.0
ENTERAR	6.0	6.0	6.0
HE 311	4.0	8.0	6.0
PS 89-90 (MVT 89-90)	5.3	6.7	6.0
QUICKSTART (PST-2FDR)	5.7	6.3	6.0
REPELL	4.0	8.0	6.0
STALLION SELECT (PS-105)	4.7	7.3	6.0
STATESMAN (WVFB-88-PR-D-12)	4.7	7.3	6.0
KAWAJO (PST-2DPR)	5.7	6.0	5.8
RODEO II	6.0	5.7	5.8
TARGET	4.7	7.0	5.8
FLETA II	3.7	8.0	5.8
LONGROW (FLCK 89UG)	4.3	7.3	5.8
MERLIN (N-13)	5.3	6.3	5.8
BARRAGE	4.7	6.7	5.7
ELITE (WVFB-88-ER-C-23)	5.3	6.0	5.7
TOPEKA (WVFB-88-ER-D-10)	4.3	7.0	5.7
UNKNOWN	4.3	7.0	5.7
PERFUME	5.0	6.0	5.5
EVENING SHADE (POLY-SH)	4.7	6.0	5.3
GOALIE	4.3	6.3	5.3
SAVURN	5.3	5.3	5.3
CLF 144	3.3	6.7	5.0
TROUBADOUR	4.7	5.3	5.0
ACCOLADE	4.0	5.3	4.7
LSD VALUE	2.4	1.9	1.5

1/ DOLLAR SPOT RATED AT "RI1" IN 1991 AND AT "VA1" IN 1992.

2/ TO DETERMINE STATISTICAL DIFFERENCES AMONG ENTRIES, SUBTRACT ONE ENTRY'S MEAN FROM ANOTHER ENTRY'S MEAN. STATISTICAL DIFFERENCES OCCUR WHEN THIS VALUE IS LARGER THAN THE CORRESPONDING LSD VALUE (LSD 0.05).

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TABLE 24. DOLLAR SPOT RATINGS OF PERENNIAL RYEGRASS CULTIVARS 1/  
1995-99 DATA  
DOLLAR SPOT RATINGS 1-9; 9=NO DISEASE 2/

NAME	IML	NOJ	OH	OKI	PAI	UBI	UBZ	MEAN
LAREDO	7.7	7.7	7.0	9.6	8.7	6.7	8.0	7.8
MANHATTAN 3	8.3	8.2	5.7	9.0	8.0	8.0	7.3	7.8
ROADRUNNER (PST-2ET)	7.7	7.7	6.0	8.7	8.3	8.3	7.3	7.7
CADDISBACK (MED 5071)	8.0	8.2	5.7	9.0	8.0	8.0	6.3	7.7
ACCENT	7.7	7.7	6.0	9.0	8.0	7.7	7.7	7.7
PASSPORT (PST-2IT)	7.0	7.2	6.3	8.3	9.0	8.3	7.0	7.6
WIND STAR (PST-2HM)	7.3	8.2	5.7	8.3	8.0	7.7	8.0	7.6
RZ (LSI-RZ)	6.7	7.8	6.7	8.7	8.7	7.0	7.3	7.5
ACHIEVER	5.7	7.8	6.3	9.0	8.3	8.0	7.7	7.5
CALYPSO II	6.3	7.8	6.7	8.7	8.7	7.7	7.0	7.5
SONATA (PST-2R3)	6.7	8.3	6.3	7.3	8.3	8.0	7.7	7.5
KOOS 93-6	7.7	7.5	5.7	8.3	8.3	8.0	7.0	7.5
MONTREY (J-1706)	7.3	7.5	7.0	8.0	8.7	7.0	7.0	7.5
QUICKSTART	7.3	6.8	6.7	8.0	8.3	7.3	8.0	7.5
HARDIGRAS (ZPS-2HW)	7.7	6.3	5.3	8.3	9.0	8.0	7.3	7.4
BRIGHTSTAR II (PST-2M3)	8.0	7.2	5.7	8.3	7.7	7.7	7.3	7.4
PANTHER (ZPS-PR1)	7.7	7.7	6.7	7.7	8.0	6.0	8.0	7.4
EDGE	8.0	8.0	5.7	8.3	7.7	6.0	8.0	7.4
TOP GUN (J-1703)	7.0	7.3	7.3	8.3	8.7	6.0	7.0	7.4
APR 066	6.0	8.2	6.7	8.7	8.0	7.0	7.0	7.4
SR 4400 (SRX 4400)	7.7	6.5	6.7	8.7	9.0	6.3	6.7	7.4
PRECISION	6.7	7.3	5.7	8.0	8.0	8.3	7.3	7.3
CHAPARRAL (PST-2DM)	7.7	7.7	6.0	8.0	7.7	7.3	7.0	7.3
PS-D-9	7.3	7.2	6.7	6.7	8.3	7.7	7.3	7.3
CAVALIER (PST-GH-94)	6.7	8.5	6.0	6.3	8.7	7.0	7.0	7.3
SUNSHINE (PICK LP 102-92)	6.7	7.3	6.0	8.0	8.3	7.0	7.2	7.1
CUTLER	7.3	7.7	6.0	8.7	8.7	4.3	7.3	7.1
STALLION SUPREME (PSI-B-1)	7.3	7.2	5.7	8.7	7.7	7.0	6.3	7.1
SATURN II (ZPS-2ST)	6.7	6.3	6.7	8.3	7.3	7.3	7.0	7.1
WIND DANCE (HB 46)	6.7	7.0	7.0	6.7	8.7	7.0	6.7	7.1
BLACKHAWK (TMI-EXE1954)	7.0	6.8	5.7	8.7	8.7	4.7	8.0	7.1
EXPRESS	7.0	7.5	5.7	8.3	8.7	5.7	6.5	7.0
SR 4200	6.7	7.5	6.3	6.7	8.0	6.7	7.3	7.0
APR 124	6.3	7.8	5.7	8.3	7.7	6.7	6.7	7.0
WIZARD (HB 41)	6.7	7.0	5.7	8.0	8.7	6.0	7.0	7.0
INF-94-C8	8.0	6.5	5.3	8.7	7.7	6.3	6.3	7.0
APR 131	6.3	5.8	6.0	8.0	8.7	7.3	6.7	7.0
ASP400 (APR 106)	6.0	7.3	5.7	8.0	7.7	6.7	7.3	7.0
PREMIER II (BR USA 94-II)	5.0	7.0	6.0	8.7	8.7	6.0	7.3	7.0
PROTOCOL (ROOS 93-3)	6.3	7.7	6.0	8.3	8.3	6.3	5.5	6.9
ESQUINE	6.3	7.3	6.0	8.0	8.0	6.0	5.3	6.9
OMEGA3 (ZPS-2DR-94)	7.3	7.2	6.7	8.0	8.0	8.0	5.3	6.9
RIVIERA II	4.3	6.5	6.7	8.0	8.0	7.3	7.7	6.9
DAVINE	7.0	6.7	6.3	7.3	8.7	6.0	6.3	6.9
LEGACY II (LESCO-TWE)	6.0	8.0	5.7	6.7	8.7	7.3	6.0	6.9
NOBILITY	6.7	6.3	6.0	6.7	8.7	8.0	6.0	6.9
SPELL BOUND (WFB-93-MEK)	6.3	6.0	6.3	9.0	8.3	6.7	5.7	6.9
VIVID	5.7	7.5	5.3	8.3	8.0	6.3	7.0	6.9
HEAD STARR (PICK PR 84-91)	7.3	6.5	5.7	8.0	9.0	5.7	6.0	6.9
MVF-4-I	6.3	7.7	5.7	7.7	6.3	6.3	8.0	6.9
ACADEMY (PC-93-1)	5.3	7.0	5.0	9.0	8.7	6.0	7.0	6.9
MORNING STAR	4.7	6.8	6.0	6.7	8.3	8.3	7.0	6.8

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TABLE 2A. DOLLAR SPOT RATINGS OF ESSENTIAL RYEGRASS CULTIVARS  
(CONT'D)  
1995-98 DATA  
DOLLAR SPOT RATINGS 1-9; 9=NO DISEASE

NAME	IBL	KJL	OHJ	CKL	EAL	UBL	UB2	MEAN
BLAZER III (PICK 92B)	6.7	6.7	6.7	8.3	7.7	6.3	5.3	6.8
NAVAJO	6.7	5.7	5.7	8.3	8.3	6.7	6.3	6.8
OMNI	6.7	7.0	6.0	7.7	8.7	5.7	6.0	6.8
PENNANT II (NB 42)	6.7	6.7	5.7	8.0	7.7	6.3	6.7	6.8
LIHG DRIVE (NB 47)	6.3	6.5	7.0	8.3	7.3	7.0	5.0	6.8
PRELUDE III (LRF-94-86)	9.0	6.5	6.6	7.0	8.3	5.0	5.7	6.8
PENNINE	7.3	7.0	5.7	5.7	8.0	7.0		6.8
SECRETARIAT (RESD)	5.7	7.0	6.0	8.0	8.0	7.3	5.3	6.8
PRYZM	7.3	7.0	5.7	8.7	8.3	5.3	5.0	6.8
SR 4010 (SRX 4010)	6.7	6.7	6.3	7.0	8.3	6.0	6.3	6.8
ADVANTAGE	6.3	7.0	6.3	6.3	8.7	6.7	6.0	6.8
TOP HAT	7.0	6.7	5.3	8.7	7.7	5.3	5.3	6.7
BUCANER II (WYER 92-4)	5.7	6.8	6.0	8.3	8.0	6.0	6.0	6.7
WILLIAMSBURG	6.0	6.2	6.0	7.3	7.3	7.3	6.7	6.7
CIS-MEH (ISI-MEB)	6.3	7.3	6.7	6.0	7.3	7.7	5.3	6.7
WX3-91	5.3	7.3	5.3	7.3	8.3	6.0	7.0	6.7
SAVURN	5.7	5.5	5.3	7.0	9.0	6.7	6.3	6.6
NK3-93	6.0	5.8	6.3	8.3	8.7	5.0	6.3	6.6
BRIGHTSTAR	6.7	6.3	6.0	8.7	9.0	3.7	6.0	6.6
MINE-O-ONE	7.3	6.7	6.0	6.7	9.0	4.0	6.5	6.6
REPELL III (LRF-94-C7)	7.7	7.3	5.3	7.7	7.3	5.3	5.3	6.6
PALMER III (LRF-94-MFPH)	6.0	6.7	6.3	8.3	7.7	6.0	5.0	6.6
PST-2CB	6.0	6.3	7.3	6.0	8.0	6.3	6.0	6.6
STARDANCE (PST-2FE)	6.7	7.2	5.7	7.7	5.3	7.0	6.3	6.5
ASSURE	6.3	5.8	6.0	8.0	7.3	6.7	5.3	6.5
ASCARD (NB 45)	6.3	6.0	6.3	7.3	8.0	6.3	5.0	6.5
STALLION SELECT	6.3	6.3	5.0	7.7	7.0	6.0	6.7	6.4
CITATION III (PST-2DGR)	5.3	7.2	5.7	8.0	7.0	5.7	6.0	6.4
LINN	7.3	6.3	5.0	7.0	8.0	4.7		6.4
DLP 1305	5.3	6.7	5.0	8.0	6.7	6.3		6.3
WYER-ER-C-2	5.3	6.0	5.0	7.7	8.3	4.3	7.3	6.3
BAR ER 5B13	6.0	5.3	6.0	7.3	7.3	5.7	6.3	6.3
MAJESTY (NB 43)	6.0	6.8	6.0	6.7	8.0	5.3	4.7	6.2
PEGASUS	6.3	5.0	6.7	6.3	7.3	4.7	6.7	6.1
ESV NA 9402	5.3	5.8	5.0	9.0	7.3	5.0	6.0	6.1
CRS-JP23	4.7	5.8	5.3	7.7	8.7	5.0	5.0	6.0
RADIANT (NB 44)	5.0	5.7	6.0	7.0	9.0	5.0	4.3	6.0
FIGARO	4.0	4.0	5.0	8.3	6.0	6.3	6.0	6.0
IMAGINE	5.3	5.7	5.7	5.7	7.7	6.7	4.7	5.9
DANCER	6.0	5.0	5.7	7.3	8.0	2.3	6.0	5.8
ENCKI (NB 1-5)	5.0	4.7	5.0	8.0	8.0	5.0	3.3	5.6
ISV NA 9401	3.7	5.7	4.7	7.3	7.3	3.7	6.7	5.6
NIGHT HAWK	5.0	4.8	5.3	7.0	7.7	5.3	3.7	5.5
ELF	4.7	4.8	6.3	6.3	6.0	4.3	4.0	5.2
LSD VALUE	2.4	1.9	1.8	1.8	1.9	2.7	2.3	0.8
C.V. (%)	23.0	25.1	18.7	14.2	14.7	26.4	21.9	21.4

1/ TO DETERMINE STATISTICAL DIFFERENCES AMONG ENTRIES, SUBTRACT ONE ENTRY'S MEAN FROM ANOTHER ENTRY'S MEAN. STATISTICAL DIFFERENCES OCCUR WHEN THIS VALUE IS LARGER THAN THE CORRESPONDING LSD VALUE (LSD 0.05).

2/ C.V. (COEFFICIENT OF VARIATION) INDICATES THE PERCENT VARIATION OF THE MEAN IN EACH COLUMN.

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TABLE 27. BROWN PATCH RATINGS OF PERENNIAL RYEGRASS CULTIVARS 1/  
1991-1994 DATA

TABLE 27. BROWN PATCH RATINGS OF PERENNIAL RYEGRASS CULTIVARS 2/  
1991-1994 DATA

BROWN PATCH RATINGS 1-9; 9=NO DISEASE

NAME	IL2	MJ1	MJ2	VAL	MEAN	NAME	IL2	MJ1	MJ2	VAL	MEAN
PRIMA (PFS-28D)	7.0	7.1	7.3	6.0	6.9	STALLION SELECT (PS-105)	5.0	5.8	6.0	4.3	5.3
AFFINITY (GER-90)	7.7	5.3	7.7	5.7	6.6	GATOR	5.7	4.7	3.3	7.3	5.3
APM	6.3	7.0	7.3	5.7	6.6	MOM LP 3184	7.3	4.6	4.3	4.7	5.2
MORNING STAR (SW-P)	7.3	6.2	7.0	5.7	6.6	REBEL	6.3	4.2	5.0	5.3	5.2
BRIGHTSTAR (PST-GR-89)	8.3	5.8	6.7	5.3	6.5	FRONTO (WVFB-89-87A)	5.3	4.8	5.0	5.7	5.2
PRELUDE II (ZP7-90)	7.7	5.2	7.7	5.3	6.5	DIMENSION (ZHT)	8.0	5.1	4.3	3.0	5.1
ASSURE	8.3	5.4	6.7	5.3	6.4	SHERWOOD	5.7	5.0	5.3	4.3	5.1
PST-290	8.7	5.8	5.7	5.7	6.4	HE 311	4.0	5.2	6.0	5.0	5.1
WIND STAR (PST-28M)	6.7	6.3	7.3	5.0	6.3	CLETON II	6.3	5.4	3.7	4.7	5.0
RIVIERA II (PICK DR64)	9.0	5.8	5.7	5.7	6.3	DELAWARE DARRF (ADD)	4.7	5.4	5.3	4.7	5.0
MULLIGAN (MK 89001)	6.7	5.9	5.7	6.7	6.2	STALLION	6.0	5.1	4.7	4.3	5.0
SEVILLE	7.0	5.9	6.7	5.3	6.2	NIGHTWALK (WVFB-89-PR-A-3)	7.0	4.6	5.0	3.3	5.0
89-666	6.3	5.2	6.0	6.7	6.1	SATURN	5.3	5.9	3.7	5.0	5.0
REBEL II (LDRD)	7.0	5.6	6.3	5.3	6.1	REGAL	4.3	4.2	5.3	5.3	4.8
PRECISION (MOM LP J147)	8.0	5.8	5.0	5.3	6.0	NEWLIN (N-33)	7.0	3.8	3.7	4.7	4.8
CUTTER (PICK 89-4)	6.3	5.0	5.3	7.3	6.0	PENNFINE	4.3	4.1	4.0	6.7	4.8
PERRANT	7.7	5.9	5.0	5.3	6.0	FIRSTA II	5.7	4.3	3.7	5.3	4.8
ENVY	8.3	5.4	4.7	5.3	5.9	STATSMAN (WVFB-88-RR-D-12)	6.3	4.3	3.0	5.3	4.8
GETTYSBURG	8.0	5.4	4.7	5.7	5.9	BARRAGE ++	5.0	4.3	4.3	5.3	4.8
EXPRESS	8.0	6.2	5.7	3.7	5.9	MANHATTAN II (E)	5.0	5.6	4.3	4.0	4.7
PST-ZROR	8.3	4.8	5.3	5.0	5.9	PR 9171	6.3	4.7	3.3	4.3	4.7
PASSPORT (PST-2EF)	5.0	6.0	6.7	5.7	5.8	PR 9109	4.3	4.2	4.3	5.7	4.6
PST-2XC	7.7	5.3	6.0	4.3	5.8	CORSAIR (MAF 89-88)	5.0	4.2	2.7	6.7	4.6
SHINING STAR (PST-2B3)	7.7	4.9	5.0	3.7	5.8	856	5.7	3.8	3.0	6.0	4.6
ADVERT	6.0	5.6	6.3	3.3	5.8	CHARGER	4.7	5.0	4.7	4.0	4.6
ACHIEVER (PICK 180U)	6.7	6.0	5.7	4.7	5.8	LINDSAY	6.0	3.1	3.0	6.0	4.5
YORKTOWN III (LRF)	7.0	5.3	6.3	4.3	5.8	TOPERA (WVFB-88-PR-D-10)	5.3	4.8	2.3	5.7	4.5
BUCCAMER (SOOS 90-1)	5.3	5.9	5.7	6.0	5.7	CONROY II (MM-LI)	5.7	3.7	3.3	5.3	4.5
BALMER II (P85)	6.0	5.2	6.3	5.3	5.7	DERBY SUPREME	6.0	3.7	3.0	5.3	4.5
DRUDY	6.0	5.1	6.7	5.0	5.7	DAET	4.0	4.3	3.0	6.7	4.5
PREMIER	6.3	5.8	5.0	5.7	5.7	C-21	5.0	4.6	3.0	5.3	4.5
TARGET	4.7	5.8	6.3	6.0	5.7	PR 9119	5.0	4.1	3.3	5.3	4.4
QUICKSTART (PST-2FOR)	3.7	5.8	7.0	6.3	5.7	NAVajo (PST-2DER)	3.3	3.8	5.0	5.3	4.4
PINNACLE	5.3	5.7	6.7	5.0	5.7	MOM LP 3185	6.3	3.7	3.0	4.3	4.3
LINX (PICK BEC)	5.0	5.7	6.7	5.0	5.6	UNKNOWN	1.7	5.6	4.3	6.3	4.3
EQUAL	6.0	5.4	5.3	5.0	5.4	CHARISMA (WVFB 89-92)	5.3	3.6	2.7	5.7	4.3
PST-20G	7.3	5.1	4.7	4.7	5.4	MOM LP 3182	6.0	3.8	3.3	4.0	4.3
SR 4200	5.0	5.7	6.0	5.0	5.4	PR 9108	5.3	3.8	2.0	6.0	4.3
CALIENTE	7.0	5.2	4.3	5.0	5.4	COMPETITOR	5.0	4.0	3.0	5.0	4.3
GREENLAND (PICK 9100)	6.3	4.7	6.7	3.7	5.3	ELEGANCE (OET-E7)	3.7	3.7	2.3	5.3	4.3
CALYPSO	6.3	5.0	4.3	5.7	5.3	ELITE (WVFB-88-PR-C-23)	5.7	3.7	2.3	5.3	4.3
LEGACY	6.3	4.3	5.3	5.3	5.3	240 (PHEBE BENCH)	5.7	3.4	2.3	5.3	4.2
RIVIERA	6.0	5.3	4.3	5.7	5.3	CUTLESS	5.3	4.1	2.0	5.0	4.1
PLEASURE	6.3	5.2	5.0	4.7	5.3	KOOS 90-2	3.3	4.1	4.7	4.3	4.1
ZFS-2EZ	6.3	4.9	6.3	3.7	5.3	COMMANDER	5.0	4.7	2.7	4.0	4.1

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TABLE 27. BROWN PATCH RATINGS OF PERENNIAL RYEGRASS CULTIVARS  
(CONT'D) 1991-1994 DATA

BROWN PATCH RATINGS 1-9; 9=NO DISEASE

NAME	IL2	NU1	NU2	VAL	MEAN
BOARDWALK (OET-D4)	6.0	3.7	2.3	4.3	4.1
MON LP 3179	4.0	4.3	4.7	3.3	4.1
BAR LP 852	5.7	3.9	2.3	4.3	4.1
BARRAGE	6.0	3.9	2.0	4.3	4.1
FS 89-90 (NVE 89-90)	5.3	4.2	2.7	4.0	4.1
NOMAD	3.3	3.8	3.7	5.0	3.9
OVATION	5.0	3.1	1.7	6.0	3.9
RODEO II	4.0	4.6	3.0	3.7	3.8
TORONTO	2.0	3.4	3.0	6.7	3.8
ESSENCE (PA 3820)	4.7	3.3	2.3	4.7	3.8
DARILLO	3.3	4.1	3.0	4.3	3.7
LORETTA	2.3	3.6	3.0	5.1	3.6
CAPRI (2R 42-176)	4.0	3.1	2.7	4.3	3.5
METEOR	5.3	3.0	1.7	4.0	3.5
PATRIOT II	4.3	3.6	3.0	3.0	3.5
PR 9118	1.7	4.0	3.7	4.3	3.4
DANARO	4.3	3.1	2.0	4.0	3.4
ACCOLADE	2.0	4.7	3.3	3.3	3.3
BAR LP 086EL	2.0	3.7	3.0	4.0	3.2
TAYA	4.3	2.9	1.3	4.0	3.1
LOWSON (PICK 691LG)	2.3	3.8	3.0	3.3	3.1
MON LP 3111	2.3	3.4	2.0	4.3	3.0
SURPRISE	4.0	2.1	1.3	4.7	3.0
CLP 144	4.3	2.7	1.7	3.3	3.0
EEG 358	3.3	2.9	2.3	3.3	3.0
GOMLIE	1.7	2.7	2.3	4.0	2.7
ENTRAN	2.0	3.6	1.7	2.7	2.5
FOURCOLOR	2.0	3.2	1.0	3.7	2.5
EVENING SHADE (POLY-SH)	1.7	3.6	2.0	2.3	2.4
ALLEGRO	1.0	3.1	1.3	3.7	2.3
CLP 39	1.7	2.3	1.7	3.7	2.3
LIRN	1.0	2.6	1.3	3.7	2.1
CARTEL	1.7	2.1	1.0	3.0	1.9
LSD VALUE	3.8	1.2	1.4	2.8	1.0

1/ BROWN PATCH RATED AT "NU2" IN 1991, AT "IL2" & "VAL" IN 1993 AND AT "NU1" IN 1991, 1993 & 1994.  
 2/ TO DETERMINE STATISTICAL DIFFERENCES AMONG ENTRIES, SUBTRACT ONE ENTRY'S MEAN FROM ANOTHER ENTRY'S MEAN. STATISTICAL DIFFERENCES OCCUR WHEN THIS VALUE IS LARGER THAN THE CORRESPONDING LSD VALUE (LSD 0.05).

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TABLE 26. BROWN PATCH RATINGS OF PERENNIAL Ryegrass CULTIVARS 1/  
1995-98 DATA  
BROWN PATCH RATINGS 1-3/ 9-NO DISEASE 2/

NAME	IL1	IN1	ME1	MC1	NE1	KJ1	OK1	VAL	MEAN
ACHIEVER	9.0	7.7	7.0	7.0	6.4	6.3	6.5	6.8	7.1
MANHATTAN 3	9.0	8.3	6.7	5.7	7.7	5.0	7.0	5.5	6.9
LAREDO	7.0	7.0	7.0	5.7	7.4	5.7	7.2	6.0	6.6
ACCENT	6.0	8.0	6.0	5.3	7.2	5.7	7.5	6.8	6.6
SECRETARIAT (RPBD)	6.7	8.0	4.7	4.7	7.3	7.3	7.0	6.8	6.6
PALMER III (LRF-94-MPRH)	7.0	7.3	7.0	3.7	7.0	6.3	7.0	7.0	6.5
PANTHER (2RS-PR1)	8.0	8.0	7.0	4.0	7.3	5.0	6.8	5.8	6.5
R2 (LSI-R2)	7.3	6.7	5.3	6.7	7.0	5.7	6.8	6.5	6.5
CALYPSO II	6.3	9.0	6.7	4.0	6.6	6.0	7.5	6.5	6.4
CIS-MER (LSI-NBB)	7.0	7.3	7.0	4.3	7.1	6.0	6.7	6.0	6.4
TOP HAT	6.3	7.7	7.0	4.7	6.8	5.0	7.2	6.7	6.4
TOP GUN (J-1703)	7.7	7.0	5.3	5.7	6.0	6.0	6.8	6.7	6.4
REPELL III (LRF-94-C7)	6.7	7.0	8.0	5.3	7.1	5.0	5.8	5.8	6.3
QUICKSTART	7.0	8.3	4.7	4.3	6.9	6.3	6.3	6.7	6.3
ESQUIRE	6.7	6.7	6.7	5.0	6.9	6.0	6.5	5.8	6.3
SATURN II (2PS-2ST)	7.0	7.3	6.3	4.3	7.6	5.7	5.8	6.2	6.3
SR 4400 (SRX 4400)	7.3	7.3	5.0	4.3	6.6	5.0	7.2	7.3	6.3
BRIGHTSTAR	6.7	7.3	5.7	5.3	6.2	6.0	6.5	6.2	6.2
SR 4200	7.3	8.3	4.7	3.7	6.9	4.7	7.5	6.7	6.2
PALM	6.0	7.0	5.7	5.0	7.0	6.0	6.7	6.2	6.2
MONTREY (J-1706)	7.3	7.0	4.3	4.3	6.8	6.3	6.8	6.5	6.2
MORNING STAR	7.3	6.3	5.7	5.0	6.2	4.3	6.7	7.7	6.2
EXPRESS	6.3	7.7	5.0	5.0	7.2	5.0	6.3	6.5	6.1
CADDISHEK (MED 5071)	5.7	6.7	5.3	4.0	7.3	7.0	7.2	5.8	6.1
SOMATA (EST-2R3)	6.0	6.7	6.0	5.7	6.8	5.3	6.8	5.7	6.1
WIND STAR (PSR-28M)	7.3	6.0	5.0	5.0	7.2	5.7	6.7	5.8	6.1
NOBILITY	6.7	6.3	4.7	5.0	7.3	5.7	6.6	6.0	6.1
ROADRUNNER (PST-2ET)	6.7	6.3	6.3	4.3	7.3	5.3	6.7	5.5	6.1
LRF-94-CB	5.3	7.3	7.7	3.7	7.2	5.3	5.5	6.3	6.0
ASSURE	5.7	6.0	6.3	6.0	6.7	5.0	6.3	6.2	6.0
CATALINA (EST-GF-94)	6.0	5.0	6.0	6.3	6.6	4.3	6.2	6.7	6.0
BUCKNER II (WVFB 92-4)	7.0	6.7	5.3	5.7	6.3	4.7	6.3	5.8	6.0
MVF-4-1	8.3	6.0	6.0	4.7	6.0	4.3	6.2	6.3	6.0
STALLION SUPREME (PST-E-1)	7.0	6.3	4.7	6.0	6.8	4.7	6.3	6.0	6.0
SPELL BOUND (WVFB-93-KVK)	7.0	6.0	6.0	4.3	6.8	5.0	6.2	6.3	6.0
VIVID	6.3	8.0	5.3	3.3	6.0	5.7	5.8	7.0	5.9
EDGE	7.0	7.7	4.7	4.7	6.8	4.3	6.5	5.8	5.9
SR 4010 (SEX 4010)	4.3	6.0	7.3	4.0	7.7	5.3	6.2	6.5	5.9
PRELUDE III (LRF-94-B6)	6.7	6.0	6.7	5.0	5.7	5.0	6.2	6.0	5.9
PROTOCOL (MOOS 93-3)	6.3	6.7	5.3	5.3	7.2	4.7	5.8	5.7	5.9
NINE-O-NINE	4.7	7.0	7.0	4.3	7.2	6.0	5.8	4.8	5.9
BRIGHTSTAR II (PST-2M3)	5.3	6.7	6.7	4.7	7.3	4.7	5.8	5.7	5.9
HEAD STREET (PICK HA 84-91)	7.3	7.3	5.0	3.3	6.3	5.0	6.7	5.8	5.9
BLACKHAWK (MI-EKELP94)	6.3	5.7	6.3	4.0	7.6	5.3	5.7	5.8	5.8
MARDIGRAS (2RS-2WV)	6.7	7.7	6.7	5.0	5.7	4.0	6.0	5.0	5.8
OMNI	7.0	6.3	5.7	3.3	7.3	4.3	5.8	6.8	5.8
PST-2CB	7.3	5.3	6.0	4.7	6.7	5.3	5.3	6.0	5.8
WX3-91	5.0	6.7	6.7	5.3	7.4	4.3	5.5	5.7	5.8
STARDANCE (PST-2FE)	6.0	5.3	6.0	3.7	6.7	6.7	6.2	6.0	5.8
LINES DRIVE (NB 47)	5.7	6.7	6.3	3.0	6.8	5.7	7.0	5.3	5.8
DIVINE	5.3	7.7	5.0	3.7	6.6	6.0	6.3	5.8	5.8
PREMIER II (BARK USA 94-II)	5.3	7.7	5.0	3.7	6.6	6.0	6.3	5.8	5.8

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TABLE 26. BROWN PATCH RATINGS OF PERENNIAL RyEBGRASS CULTIVARS  
(CONT'D)  
1995-98 DATA  
BROWN PATCH RATINGS 1-9; 9=NO DISEASE

NAME	IL1	IR1	ME1	MO1	NE1	NO1	OK1	VAL	MEAN
SUNSHIRE (PICK LP 102-92)	4.7	7.0	6.0	4.0	7.2	5.3	6.0	6.2	5.8
ELF	6.7	4.7	5.7	5.0	7.3	5.3	6.2	5.5	5.8
PRECISION	6.0	7.3	6.0	4.3	6.1	5.0	5.5	5.8	5.8
KOOS 93-6	7.0	5.7	4.7	4.3	7.0	5.0	6.0	5.8	5.7
ACADEMY (PC-93-1)	6.7	5.3	5.3	5.0	6.1	5.3	5.7	6.0	5.7
ASCEND (MB 45)	6.0	6.3	6.7	3.0	7.2	5.3	5.7	5.2	5.7
APR 066	7.0	7.3	4.3	3.7	6.3	4.0	6.2	6.5	5.7
SHAWN	6.7	6.7	4.7	5.0	6.3	4.0	6.0	6.0	5.7
BAR EN 5813	4.3	6.0	5.7	4.7	6.2	5.0	7.0	6.2	5.6
WIZARD (MB 41)	7.0	6.7	5.7	3.7	6.3	4.7	5.8	5.2	5.6
CUTTER	5.7	6.3	4.0	4.3	7.0	5.0	6.2	6.5	5.6
CITATION III (PST-2D3R)	6.0	5.7	7.7	3.7	7.1	4.3	6.2	4.3	5.6
FERRINE	6.7	7.0	4.3	5.0	5.9	3.0	6.7	6.3	5.6
OMEGA (ZPS-2DR-94)	3.3	6.7	6.0	4.3	7.4	5.3	5.8	5.7	5.6
PAC-93	6.0	6.7	5.3	4.3	6.4	4.7	5.8	5.3	5.6
WYBE-PR-C-2	6.3	5.3	5.0	5.3	6.2	4.7	5.7	6.0	5.6
PASSPORT (BT-2FF)	6.3	7.3	4.0	3.3	7.1	4.3	5.8	6.2	5.6
ASP400 (AIR 106)	5.7	5.7	4.7	4.3	6.7	5.3	6.2	5.8	5.5
MAJESTY (MB 43)	6.0	5.7	6.7	4.0	6.4	5.3	5.5	4.5	5.5
WILLIAMSBURG	6.3	5.0	4.3	4.3	7.2	4.0	6.5	6.3	5.5
BLAZER III (PICK 928)	6.3	6.3	5.0	3.3	6.7	4.3	5.5	6.3	5.5
PS-D-9	5.7	5.7	4.3	4.7	6.7	3.3	6.5	6.5	5.4
RIVIERA II	5.0	4.3	5.3	5.0	7.0	4.3	6.0	6.2	5.4
APR 131	5.0	5.7	5.7	3.3	6.4	4.7	6.3	6.0	5.4
PENNAUT II (MB 42)	6.0	7.0	4.7	3.0	7.1	4.3	6.0	4.8	5.4
NIGHT HAWK	5.3	5.3	5.7	4.7	5.4	4.0	6.2	6.0	5.3
WIND DANCE (MB 46)	4.3	5.3	6.7	4.3	6.7	4.7	5.7	4.5	5.3
IMAGINE	5.7	6.3	6.7	2.7	6.7	3.3	5.8	4.8	5.3
PEGASUS	4.3	6.7	5.7	3.3	6.0	3.3	6.7	6.0	5.3
RADIANT (MB 44)	4.7	5.3	6.0	3.7	6.8	4.3	5.7	4.8	5.2
LEGACY II (ESCO-1NF)	5.0	4.7	4.7	4.0	7.0	4.0	6.0	5.7	5.1
STALLION SELECT	3.7	4.0	5.0	5.7	5.4	4.3	5.8	6.3	5.0
APR 124	3.0	5.7	4.0	4.3	6.6	5.3	5.8	5.5	5.0
ADVANTAGE	4.7	4.3	5.0	4.0	7.4	4.3	5.2	5.0	5.0
NAVAJO	3.3	5.7	5.0	3.7	5.6	4.0	6.5	6.2	5.0
DANCER	4.3	5.0	5.7	4.3	5.2	4.0	5.3	5.5	4.9
CHAPARRAL (PST-2DL4)	4.3	4.7	7.0	3.0	6.7	3.3	5.8	4.3	4.9
CAS-1P23	3.3	6.0	5.3	3.0	5.7	4.0	5.7	5.3	4.8
EXCEL (MB 1-5)	3.7	6.0	6.7	3.3	5.8	3.3	4.5	4.7	4.8
DLP 1305	2.7	5.3	3.3	2.7	5.2	3.7	6.0	5.8	4.3
FIGARO	2.3	5.0	2.3	3.0	3.9	3.3	6.3	5.5	4.0
DSV NA 9402	2.7	3.3	3.7	6.0	4.8	2.3	4.3	4.5	4.0
DSV NA 9401	3.0	2.3	3.3	5.3	4.6	3.7	4.3	4.0	3.8
LINK	2.3	3.7	2.3	4.3	5.4	1.3	4.0	4.7	3.5
LSD /VALUE	2.5	2.5	2.3	2.2	1.2	1.8	1.5	2.4	0.7
C.V. (%)	26.2	24.5	25.9	30.9	20.0	23.0	21.2	35.6	26.5

1/ TO DETERMINE STATISTICAL DIFFERENCES AMONG ENTRIES, SUBTRACT ONE ENTRY'S MEAN FROM ANOTHER ENTRY'S MEAN. STATISTICAL DIFFERENCES OCCUR WHEN THIS VALUE IS LARGER THAN THE CORRESPONDING LSD VALUE (LSD 0.05).

2/ C.V. (COEFFICIENT OF VARIATION) INDICATES THE PERCENT VARIATION OF THE MEAN IN EACH COLUMN.

U.S. DEPARTMENT OF AGRICULTURE  
 AGRICULTURAL MARKETING SERVICE

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

**EXHIBIT E**  
**STATEMENT OF THE BASIS OF OWNERSHIP**

1. NAME OF APPLICANT(S) <b>DLF</b> International Seeds, Inc. <b>704</b> <b>3/15/04</b>	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER ISI-R2	3. VARIETY NAME R2
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) PO Box 168 Halsey, OR 97348 USA	5. TELEPHONE (include area code) 541-369-2251	6. FAX (include area code) 541-369-2640
7. PVPO NUMBER <b>9800348</b>		

8. Does the applicant own all rights to the variety? Mark an "X" in appropriate block. If no, please explain.

YES  NO

9. Is the applicant (individual or company) a U.S. national or U.S. based company? If no, give name of country

YES  NO

10. Is the applicant the original owner?  YES  NO If no, please answer the following:

a. If original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. national(s)?

YES  NO If no, give name of country \_\_\_\_\_

b. If original rights to variety were owned by a company, is the original owner(s) a U.S. based company?

YES  NO If no, give name of country \_\_\_\_\_

11. Additional explanation on ownership (If needed, use reverse for extra space):

R2 was developed by a breeder employed by International Seeds, Inc. at International Seeds' Research Station. Varieties developed by International Seeds' employees working at International Seeds' Research Station are the property of the company.

**PLEASE NOTE:**

- Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:
1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
  2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
  3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.
- The original breeder/owner may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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